Breakout Session #3: Computing Suspended-Sediment Records Using Surrogate Measurements

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Session Assistant: Larry Freeman, USGS
Note Taker: Gardner Bent, USGS

Sessions Focus: Computational Techniques Using Sediment Surrogate Technologies

Session Goals/Outcomes:

1. Assessment of current technologies ability to assist in computing suspended-sediment discharge records.
2. Propose acceptance criteria for surrogate data sets used in computing suspended-sediment records.
3. Identification of limitations with respect to records computations
4. Estimation of time frames for overcoming limitations
5. Recommendations for using surrogates to assist in computing suspended-sediment discharge records.

Some Guiding Questions for the Breakout Session #3:

1. What are notable problems and limitations?
2. What are realistic goals for this surrogate?
    a. In particular, what are some realistic expectations of when this technology will be field operational.
3. What is an estimate of the accuracy of this surrogate in determining field concentrations?
    a. Is some sort of depth integration possible?
4. What is an estimate of the accuracy of this surrogate for computing loads?
    a. How do errors propagate from surrogate measurement to equivalent concentration to cross section concentration to load?
5. What are the group's recommendations on how to proceed?

Silver Baron "C", Wednesday, May 1, 8:00 a.m. to 12:00 p.m.

8:00 a.m.	Introduction	Bill Carey
8:05 a.m.	Estimation of Suspended Sediment Flux in Streams using Continuous Turbidity and Flow Data Coupled with Laboratory Concentrations	Jack Lewis
8:25 a.m.	Discussion	
8:35 a.m.	Field Experiences with a Pressure Transducer-Based Measure for Sediment Load	Earnest Tollner
8:55 a.m.	Discussion	
9:10 a.m.	Determination of Total and Clay Suspended-Sediment Loads from Instream Turbidity Data in the North	Mark Uhrich

	Santiam River Basin, Oregon; 1998-2000	
9:30 a.m.	Discussion	
9:45 a.m.	Testing Laser-Based Sensors for Continuous, In-situ Monitoring of Suspended Sediment in the Colorado River, Grand Canyon, Arizona	Ted Melis
10:05 a.m.	Discussion	
10:40 a.m.	Estimation of Sediment Loads Using Continuous Turbidity Monitoring and Regression Analysis Compared to other Load Estimator Methods	Victoria Christensen
11:00 a.m.	Discussion	
11:10 a.m.	Use of Rating (Transport) Curves to Predict Suspended-Sediment Concentration	Arthur J. Horowitz
11:40 a.m.	Selection of subgroups, leaders, and note takers	
12:00 p.m.	Adjourn, Lunch, Field Trip	
5:00 p.m.	Subgroups meet on own for dinner and discussion.	

Comedy Club (no jest!), Thursday, May 2, 8:00 a.m. - 12:00 p.m.
(Comedy Club is located in the main casino, floor level)

8:00 a.m.	Regroup	Bill Carey
8:05 a.m.	Subgroups reconvene within room	
9:05 a.m.	Laser Group Report	Respective Leader
9:25 a.m.	Discussion	
9:40 a.m.	Break	
10:00 a.m.	Pressure Difference Group Report	Respective Leader
10:20 a.m.	Discussion	
10:40 a.m.	Turbidity Group Report	Respective Leader
11:10 a.m.	Discussion	
11:40 a.m.	Review points for afternoon report, wrap up	Carey
12:00 p.m.	Adjourn	
1:00-5:00	All attendees reconvene in Grand Exposition C; Reports from 4 Breakout Groups and Wrap up	